

June 27, 1974

ATTENDEES

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DOE REVIEW COMPLETED

ENCLOSURE 1

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JUN 27 1974

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PROPOSED OUTLINE FOR AD HOC GROUP

Responsibility

A. SUMMARY AND RECOMMENDATIONS

B. STUDY OF POSSIBLE PROVISIONS FOR AN INTERNATIONAL CONVENTION CONCERNED WITH PHYSICAL SECURITY GUIDELINES

AEC/DIP

AEC/ISA<sup>1/</sup>

State, ACDA, DOD

1. Review of Related Material in NSDM 235.

2. Review of Previous Related Studies.

3. Current Evaluation of the Merits and Nature for an International Convention.

a. Merits of a convention.

(1) scope of subject matter to be addressed

(2) what do we hope to accomplish

(3) what are pitfalls by taking this approach

(4) what do we hope to gain from this approach that we cannot achieve otherwise

ACDA, AEC/  
DIP, DOD

b. Nature of a convention, if so decided.

(1) via existing international organizations

(a) IAEA

(b) UN

(c) Zangger Committee

(d) others

AEC/DIP

(2) bilateral and/or trilateral agreements

(a) with major nuclear suppliers

(b) with allied Western nation suppliers

(c) others

SUBJECT TO GENERAL DECLASSIFICATION SCHEDULE OF  
EXECUTIVE ORDER 11652 AUTOMATICALLY DOWNGRADED  
AT TWO YEAR INTERVALS AND DECLASSIFIED ON DEC. 31

1980  
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NATIONAL SECURITY  
INFORMATION

Unauthorized Disclosure Subject to  
Criminal Sanctions.

ENCLOSURE 2

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Responsibility

State, AEC/OGC,  
AEC/REG

c. Legal ramifications.

AEC/DS&S, DOD

4. Provisions for an International Convention.

- a. Statement and argument on using the new U.S. standards as a preferred starting point.
- b. New U.S. standards.
- c. Provisions that we must maintain.
- d. Provisions that we should make stronger.
- e. Provisions that are negotiable downward.
- f. Recommended U.S. position, including those provisions that can be left open as negotiating options.

CIA, AEC/ISA<sup>2/</sup>

5. Postulated Positions of Other Nations Regarding this Subject.

AEC/ISA<sup>3/</sup>

6. Conclusions and Recommendations.

- a. Conclusions regarding the merits and nature of an international convention, with a listing of the pros and cons including a brief discussion in each category.
- b. Summary of what we hope to achieve from a convention, if held.
- c. Recommendations, including the possible provisions for an international convention and justification of the positions taken.

C. ESTABLISHMENT OF INFORMATION EXCHANGE  
INTERNATIONALLY ON TRANSFERS OF MATERIAL,  
EQUIPMENT AND TECHNOLOGY

AEC/DIP

1. Review of NSDM 235.

AEC/ISA<sup>1/</sup>

2. Review of Previous Related Studies.

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Responsibility

AEC/ISA<sup>4/</sup>

3. Summary of Current Procedures Regarding Transfer of:

a. Materials.

b. Equipment.

c. Technology.

25X1

AEC/ISA<sup>4/</sup>, ACDA,  
State, DOD,  
AEC/REG

5. Strengths and Weaknesses of Present Procedures.

AEC/ISA<sup>5/</sup>

6. Conclusions and Recommendations

a. Alternatives.

b. Arguments for and against proposed alternative procedures, if any.

c. Recommendations, including justification of the positions taken.

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- 1/ AEC/ISA - OAD/AC - S. Thompson  
2/ AEC/ISA - OAD/IANA - B. W. George  
3/ AEC/ISA - OAD/PMSA - V. Hudgins, W. Hags  
4/ AEC/ISA - OAD/PMSA - J. Kratz  
5/ AEC/ISA - OAD/S&A - F. McGoldrick

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PROPOSED UNDERSTANDINGS  
BETWEEN THE GOVERNMENT  
OF AND  
THE GOVERNMENT OF THE  
UNITED STATES

The Government of the United States and the Government of \_\_\_\_\_ agree to apply the following physical security protection measures to such quantities of highly enriched uranium (uranium enriched to \_\_\_\_\_ or more in the isotope U-235) and plutonium hereafter specified as they may transfer or authorize to be transferred to each other for use in nuclear power plants and related support facilities including spent fuel reprocessing or fuel conversion and fabrication plants. At the request of the State supplying the material they may also be applied to significant quantities of such material that may be supplied for other purposes. These procedures are designed to take into account the appropriate regulations and practices in the respective countries and are considered consistent with the "Recommendations for the Physical Protection of Nuclear Material" published by the International Atomic Energy Agency.\*

1. Any operator of a nuclear facility storing or utilizing or processing such material will be expected to prepare a physical security plan and submit it to the appropriate governmental authorities for approval.

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\* Within the United States, the authority for setting standards, licensing and checking for compliance with physical security measures rests with the Atomic Energy Commission. Within \_\_\_\_\_ this responsibility rests with \_\_\_\_\_.

2. The operators of facilities (such as fuel reprocessing or fabrication plants) who possess five or more kilograms of highly enriched uranium 235 and two or more kilograms of plutonium or uranium 233\* (or in combinations exceeding 5000 grams using a weighting factor of 2 1/2 for Pu and U-233) will be expected to adhere to the following procedures:
  - a. They will be expected to maintain a physical security organization, including armed guards, to protect the facility involved against industrial sabotage and the special nuclear material in their possession against theft. (At least one supervisor of the security organization will be expected to be onsite at all times. The facility operator also will be expected to establish, maintain, and follow written security procedures which document the structure of the security organization and which detail the duties of guards, watchmen, and other individuals responsible for security. All guards or watchmen will be properly trained, equipped and qualified.)
  - b. Special nuclear material will be stored and processed within a protected and controlled area at each facility

\* ~~U-233 is listed here from the standpoint of technical consistency although the parties appreciate that this material is not now actively exchanged between them.~~

involved. (Each such "material access area" will be located within a larger protected area which is surrounded by a physical barrier. An isolation zone will be required around the outer physical barrier and will be kept clear of obstructions, illuminated and monitored to detect the presence of individuals or vehicles attempting to gain entry to the protected area.)

- c. Personnel and vehicle access into a protected area, and material access area will be controlled. (A picture badge identification system will be used and ~~visitors will be registered and escorted~~, except that an individual who requires frequent and extended access to a protected area need not be escorted if he is provided with a picture badge which designates areas to which access is authorized. Individuals and packages entering the protected area will be searched. Admittance to a material access area will be controlled and access limited to those persons who require such access to perform their duties. Methods to observe individuals within a material access area to assure that special nuclear material is not being diverted will be provided and used on a continuing basis. All

individuals, packages, or vehicles will be searched for concealed nuclear material before exiting from a material access area. Keys, locks, combinations and related equipment will be required to be controlled to minimize the possibility of compromise.)

- d. All emergency exits in the protected areas, vital areas, and material access areas of the facility will be alarmed. (Each unoccupied vital area and material access area will be locked and alarmed. All alarms will be required to annunciate both audibly and visibly in a continuously manned central alarm station and audibly in at least one other continuously manned station. Each alarm will be required to be self-checking and tamper-indicating and will be inspected and tested for operability and required functional performance.)
- e. Each guard or watchman on duty will be capable of maintaining continuous communications with an individual in a continuously manned central alarm station with the protected area, who in turn will be capable of calling for assistance from other guards and from local law enforcement authorities. (To provide the capability of continuous communication with local law enforcement authorities, two-way radio voice communications will be established in addition to conventional telephone service. All communications equipment will remain



operable from independent power sources in the event of loss of primary power, and will be tested at the beginning of each security personnel work shift.)

- f. Facility operators will be required to establish liaison with local law enforcement authorities. (In developing security plans, operators will be expected to take into account the probable size and response time of the local law enforcement assistance. The security force must be prepared to take immediate action to neutralize threats to the facility, either by appropriate direct or by calling for assistance from local law enforcement authorities or both.)
- g. Facility operators will be required to test and maintain intrusion alarms, emergency alarms, communications equipment, physical barriers, and other security related devices or equipment as follows:
  - (1) All alarms, communications equipment, physical barriers and other security related devices or equipment are required to be maintained in operable and effective condition;
  - (2) Each intrusion alarm is to be functionally tested for operability and required performance at the beginning and end of each interval during which it is used for security, but not less frequently than once every seven (7) days.

- (3) Communications equipment is required to be tested for operability and performance not less frequently than once at the beginning of each security personnel work shift.
- h. Records pertaining to the physical security program will be required to be kept as follows:
  - (1) Names and addresses of individuals who have access to material access areas and vital areas;
  - (2) A register of visitors, vendors and other individuals who are permitted access to protected areas;
  - (3) Documentation of all security tours and inspections, and of all tests, inspections and maintenance performed on security equipment;
  - (4) A record of all onsite alarm annunciations and the security force response to each alarm; and
  - (5) Procedures for controlling access to protected areas and to keys for locks used to protect special nuclear material.
3. In recognition of the unique vulnerability of the transportation phase of the nuclear fuel cycle, persons who ship five kilograms or more of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope) and two kilograms or more of plutonium or uranium-233, (or in combinations which exceed 5000 grams using a weighting factor of 2-1/2 for Pu and U-233) will be expected to adhere to the following conditions:

- a. The person, facility or corporate entity involved will be expected to submit a plan to the appropriate governmental authority for review and approval outlining the methods to be used for the protection of special nuclear material in transit.
- b. The plan so submitted shall be expected to demonstrate the means to be used in meeting the following requirements:
  - (1) If a common or contract carrier is used, it will be required that the special nuclear material be transported under the established procedures of the carrier which, as a minimum, provide a system for the physical protection of valuable material in transit and require a hand-to-hand receipt at origin and destination and at all points en route where there is a transfer of custody. The transit times of all shipments will be minimized and routes selected to avoid areas of natural disaster or civil disorders. Special nuclear material is to be shipped in containers which are sealed by tamper-indicating type seals. The outer container or vehicle will be locked and sealed. Also no container weighing 500 lbs. or less is to be shipped on open vehicles, such as open trucks or railway flatcars.
  - (2) All shipments by road are to be made without any scheduled stops to transfer special nuclear material or other cargo between the point of origin and destination. All motor

vehicles will be required to be equipped with a radio-telephone. Calls will be made at predetermined intervals. If not received when planned, the responsible party or his agent will be expected to immediately notify an appropriate law enforcement authority. Shipments by road shall be accompanied by at least two people in the transport vehicle. If the transport vehicle is not specially designed with penetration resistant and immobilization features, the vehicle will be required to be protected by an armed escort consisting of at least two guards in a separate escort vehicle, who shall arrange to keep the vehicle under continuous scrutiny. In addition, transport vehicles will be required to be prominently marked with identifying letters or numbers.

- (3) Shipments of special nuclear material in quantities exceeding 20 grams or 20 curies, whichever is less, of plutonium or uranium-233 and in excess of 350 grams of uranium-235 will be prohibited on passenger aircraft. Shipments on cargo aircraft will be arranged so as to minimize the number of scheduled transfers and these will be monitored by armed guards.
- (4) Rail shipments will be escorted by two armed guards. Continuous on-board radiotelephone communications capability will be provided with conventional telephone

backup. Periodic calls will be required to the shipper or his agent.

- (5) Shipments by sea will be made on vessels making the minimum ports of call. Transfer at domestic ports from other modes of transportation will be monitored by an armed guard. Shipments will be placed in a secure compartment which is locked and sealed. Export shipments will be escorted by an authorized individual who may be a crew member, from the last port until it is unloaded in a foreign port. Ship-to-shore communications will be made every twenty-four hours to relay position informing and the status of the shipment as determined by daily inspections.
- (6) All transfers of SNM shall be monitored by an armed guard. Material in storage shall be kept under continuous visual surveillance and storage time shall not exceed twenty-four hours.
- (7) A person who makes a shipment will notify the consignee of the shipment schedule and details, including the estimated time of arrival of the shipment. The party who receives a shipment must immediately notify the shipper. Shipments which fail to arrive at the destination on time will be traced with prompt notification to the appropriate governmental authorities.

(8) Records of special nuclear material shipments will be documented prior to shipment as follows: names of carriers, major roads to be used, flight numbers in the case of air shipments, dates and expected times of departure and arrival of shipments, names and addresses of the monitor and one alternate monitor at each transfer point, verification of communication equipment on board the transfer vehicle, names of individuals who are to communicate with the transfer vehicle, container seal description and identification. Records are required to be kept of other means used to protect the special nuclear material during the course of shipment.

4. Vital area as used in paragraph 2.d. above means any area which contains vital equipment within a structure, the walls, roof, and floor of which constitute physical barriers of substantial construction.